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No. 74 March, 1964

RESOURCE MANAGEMENT REPORT

ONTARIO

DEPARTMENT OF LANDS AND FORESTS

Hon. A. Kelso Roberts, Q.C.
Minister

F. A. MacDougall
Deputy Minister

(These Reports are for Intra-Departmental Information
and Not for Publication)

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(THESE REPORTS ARE FOR INTRA-DEPARTMENTAL INFORMATION AND NOT FOR PUBLICATION)

REPORT ON THE MOOSE CHECKING STATION
LAKE SUPERIOR PROVINCIAL PARK
OCTOBER 1 - 13, 1963

by
H. P. Endress
Conservation Officer, Sault Ste. Marie District

Abstract

A moose checking station was established for the second consecutive year at the south boundary of Lake Superior Provincial Park to provide more exact information on moose kill and hunters' success within the park as well as data for other areas. The station was operated from 10:00 a.m. to 7:00 p.m. during the period October 1 to 13, 1963. Of the vehicles stopped, 1,016 were found to contain hunters, and of these hunters 408 had been successful in killing a moose. Park hunters, in possession of 45 moose, were travelling in 177 of the vehicles checked. The park kill was higher than in 1962 with 62 per cent of the animals being shot during the first three days. Bulls comprised 71 per cent of the total park kill. No tagged animals were recovered during this period. Suggestions are offered for future checking station operations in this area.

Introduction

A moose checking station was set up at the south entrance of Lake Superior Provincial Park for the first two weeks (13 days) of the 1963 season, marking the second year that such a station has been in operation at that site and for that period of time. In 1962 an additional station was maintained at the north entrance of the park but only for four days earlier in the season. The purpose of the station was to provide continued and comparative information on hunting pressure and success in the park and to obtain information on moose killed. Data would also be collected from hunters coming from other districts.

During the 1962 season in Lake Superior Provincial Park an estimated 100-150 animals were harvested. The greater portion of these were killed during the first two weeks of the season in areas immediately adjacent to logging roads or Highway 17 north (Endress, 1962 (a)).

Aerial mapping during the winter of 1962-63 indicated a decrease in the estimated moose population of the park (Watson, 1962). This method of assessment was later checked by plot sampling which yielded a higher index of abundance.

The moose tagging project planned for 1962 to give continued information on migratory habits of moose was abruptly halted on June 17, 1963, due to an accident involving the helicopter.

Method

Special funds were allotted for this project to allow operation of the station during a two week period, from 10:00 a.m. to 7:00 p.m. daily. The north station operated in 1962 was discontinued.

Appropriate signs were installed on the shoulders of the highway on either side of the station giving drivers ample warning. The station was operated by two men except at peak periods when an additional man was utilized. All cars travelling out of the park were stopped and non-hunters were permitted to continue immediately. General park hunt information was recorded (see sample interview sheet). The number of vehicles containing hunters from other districts was also tabulated at this time. Successful hunters were directed to an adjoining parking area where return cards were completed for each moose. Moose were aged and when possible the lower jaw or incisor teeth were collected. Some information on park kills was obtained through conversation, these being checked out by the conservation officer and jaws obtained, when time allowed.

Results

Hunters again were most co-operative in relating information requested by checking station personnel. Traffic was steadily passed through the station without incident.

A decided increase in the amount of data collected was noted over 1962, although the station was operated for one day less. A total of 1,016 vehicles containing moose hunters were checked through the station. One hundred and seventy-seven of these contained park hunters, 45 of whom had been successful in filling their licence. The remaining 839 vehicles were transporting hunters and 363 moose from other districts (Appendix Table I).

White River District accounted for 208 or 54 per cent of the return cards collected (Appendix Table II). These cards will be forwarded to the respective districts.

The increased data reflect an increase in both hunting pressure and moose kill. The increased number of hunters and unseasonal weather suggest reasons for the increase in the kill.

A strip extending in one mile from each side of Highway 17 north produced 80 per cent of the total park kill, again indicating that access is of major importance in the harvest of moose. The restriction on aircraft landing on park lakes limits access in remote areas. The location and sex of kills recorded on the attached map* and shown in Appendix Table III again indicates that Township 30, Range XVIII was the area of highest kill (17 moose). An extensive network of roads (Weyerhaeuser Canada Ltd.) in this township affords hunters additional access (Appendix Table II).

Twenty-eight (62%) of the 45 moose recorded as being killed in the park during the first two weeks were obtained in the first three days of the season. The sex composition of the park kills from October 1 to 13 indicated that 71 per cent were bulls, 20 per cent cows, 3 per cent male calves and 6 per cent female calves. (Appendix Table IV) The movement of bulls and vulnerability to calling suggest the main reasons for these figures which coincide closely to those of 1962.

A breakdown of the park kill by age appears in Appendix Table V. Seventy-two per cent of all animals aged were 4-1/2 years of age or under.

No tagged animals were recovered during this two week period.

Conclusions and Recommendations

Once again this station proved to be an excellent method of obtaining moose hunt information. Although the station was operated for an extended daytime period (10:00 a.m. to 7:00 p.m.) far from complete coverage was realized. We recommend that this station be set up as a special project to enable its operation on a 24 hour basis for the first two weeks of moose season. It is also suggested that the location be changed to the Department of Highways weigh scales on Highway 17 north. This site would afford accommodation for crews, proper lighting for night time operations, restaurant facilities for meals and a spacious area in which cars could be checked. Additional staff from other districts would be required to perform this extended operation.

In order to obtain proper harvest of inaccessible inland animals some thought should be given to possible use of aircraft in Lake Superior Provincial Park. This should be on a limited, closely

* A map showing the location and sex of kills accompanied the original report now in Maple Fish and Wildlife Library.

controlled basis.

Acknowledgments

Fred Cowell, Park Naturalist, Russell Renner, Ranger and Hugh McCullough, Conservation Officer in White River District assisted in manning the checking station. Sault Ste. Marie Fish and Wildlife Staff also assisted during peak periods.

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Endress, H. P. 1962(b) - Lake Superior Provincial Park Moose Checking Station Report, Lands & Forests unpublished report.

Watson, M. 1962 - Sault Ste. Marie District Aerial Moose Inventory Report, Lands & Forests unpublished report.

APPENDIX TABLE I

TEMPORAL DISTRIBUTION OF THE NUMBER OF CARS AND MOOSE CHECKED THROUGH SOUTH BOUNDARY OF LAKE SUPERIOR PROVINCIAL PARK - OCTOBER 1 - OCTOBER 13, 1963

	CARS			MOOSE		
Date Checked	Park Hunters	Other Areas	Total	Park Kills	Other Area Kills	Total Kills
Oct. 1	21	15	36	4	-	4
2	15	29	44	5	12	17
3	14	55	69	1	19	20
4	16	56	72	1	25	26
5	15	106	121		65	65
6	40	134	174	1	47	48
7	9	70	79	5	47	52
8	5	99	104	1	47	48
9	3	42	45	1	20	21
10	3	44	47		12	12
11	2	53	55		23	23
12	21	80	101	3	33	36
13	13	56	69	1	13	14
TOTALS	177	839	1016	23 (22)	363	386 (22)
				45		408

(22) Moose Located From Hunter Information.

APPENDIX TABLE II

CARS CHECKED BY DISTRICTS THROUGH CHECKING STATION
OCTOBER 1 - 13, 1963

District	Date													Total Cars	Total Moose
	1	2	3	4	5	6	7	8	9	10	11	12	13		
White River	7	15	28	32	79	95	42	68	27	24	31	55	45	548	208
Kapuskasing	1	6	6	6	-	4	8	4	3	1	2	3	2	46	40
Geraldton	1	3	14	13	19	14	11	21	10	9	10	10	3	138	65
Port Arthur	-	2	1	2	6	8	4	3	1	2	-	6	4	39	16
Kenora						6					4	3	1	14	3
Sioux Lookout						2	3	3		4	2	2	1	17	16
Chapleau										4				4	-
Fort Willian											3			3	-
L. Superior Prov. Park	21	15	14	16	15	40	9	5	3	3	2	21	13	177	23
Sault Ste. Marie	6	3	6	3	2	5	2	-	1	-	1	1	-	30	15
Day Total	36	44	69	72	121	174	79	104	45	47	55	101	69	1016	386

APPENDIX TABLE III

MOOSE SHOT BY TOWNSHIPS - LAKE SUPERIOR PROVINCIAL PARK-OCTOBER 1 - OCTOBER 13, 1963.

Township	Bull	Cow	M.Calf	F.Calf	Unknown	Total
Twp. 28 RXV	1					1
28 RXVI		1				1
31 RXVIII	8	4	1	2	2	17
30 RXIX	5					5
31 RXIX	1					1
28 RXX	1				3	4
29 RXX	2	1				3
30 RXX	2				2	4
30 RXXI	2					2
31 RXXI	1					1
30 RXXII	1					1
31 RXXII		1			3	4
30 RXIII	1					1
Total	25	7	1	2	10	45

APPENDIX TABLE IV

TEMPORAL DISTRIBUTION BY SEX OF MOOSE KILLED IN LAKE SUPERIOR PROVINCIAL PARK, OCT. 1-13, 1963

Date of Kill	Bull	Cow	Calf M.	Calf F.	Unknown	Total
Oct. 1	12				3	15
2	2	1			4	7
3	4	1			1	6
4	1					1
5	1	1			1	3
6	1	1	1			3
7	3					3
8		1				1
9						
10						
11		1		2		3
12						
13	1	1			1	3
TOTAL	25	7	1	2	10	35(45)
% Composition from Known Animals	71%	20%	3%	6%		

APPENDIX TABLE V

AGE COMPOSITION BY SEX OF LAKE SUPERIOR PROVINCIAL PARK MOOSE KILLS

Age Class	Bull	Cow	M. Calf	F. Calf	Total
Calf 1/2			1	2	3
I 1-1/2	3	3			6
II 2-1/2	2				2
III 3-1/2	2	1			3
IV 4-1/2	1	1			2
V 5-1/2-6-1/2	1				1
VI 6-1/2-8-1/2	1				1
VII 8-1/2-10-1/2	1	1			2
VIII 10-15	1				1
IX 14+	1				1
Total	13(12)	6(1)	1	2	22(45)

Note: 10 unknown kills, no sex or age.
Figures in brackets indicate number not aged.

APPENDIX TABLE VI

COMPARATIVE TABLES OF DATA COLLECTED LAKE SUPERIOR PROVINCIAL PARK CHECKING STATION 1962-63

Temporal Distribution by Sex

Age Class	Bull	Cow	M. Calf	F. Calf	TOTAL
1962	23	8	1	2	34
%	68%	24%	3%	6%	100%
1963	25	7	1	2	35
%	71%	20%	3%	6%	100%

Age Composition

	1/2	I	II	III	IV	V	VI	VII	VIII	IX	TOTAL
1962	3	5	2	3	2	4	1	2	2	2	26
1963	3	6	2	3	2	1	1	2	1	1	22

Temporal Distribution of Number of Cars And Moose Checked

Park Hunters		Hunters Other Areas	Total	Park Kill	Kills Other Areas	Total
1962	145	438	583	34	197	231
1963	177	839	1016	45	363	408

Total Moose Checked by Districts

District	1962	1963
White River	95	208
Kapuskasing	3	40
Geraldton	29	65
Port Arthur	17	16
Kenora	2	3
Sioux Lookout	2	16
Sault Ste. Marie	21	15
Lake Superior Provincial Park	34	45
Unknown	9	--
Total	212	408

LAKE SUPERIOR PARK

MOOSE HUNT

1963

Date.....

NOTE: Fill in one sheet for each car stopped.

Have you been hunting in Superior Park? Yes..... No.....

Have you been stopped before? Yes..... No.....

If yes, where? ..... when .....

Where were you hunting in the Park? .....

.....

How many in Party? .....

Number of days hunted ..... Hours per day .....

Did you see a moose? Yes..... No.....

Did you kill a moose? Yes..... No.....

Did you hire a guide? Yes..... No.....

Number of moose killed.....

DEER BROWSE SURVEY, PELLET COUNT, AND DEAD DEER COUNT, DETOUR POINT, KENORA DISTRICT

by
R. McGillivray
Conservation Officer

Abstract

During the early part of May, 1963, a browse survey, pellet count and dead deer count was conducted on Detour Point. The browse survey produced an estimate of 4851 available stems per acre with a light amount of browsing being tallied. A population estimate of 27 deer per square mile was calculated and a 10 per cent dead deer count indicated no mortality had taken place. It is felt that utilization of the range is far below its carrying capacity.

Introduction

Detour Point of Eagle Lake, being proposed as a new cutting area by Kenora Timber Branch, presents itself as an ideal location for the establishment of a permanent deer study area.

In May of 1963, a preliminary browse survey, pellet group count, and dead deer count was conducted in order to obtain a figure on what this area is at present supporting. This report contains the data collected during the survey.

It is planned to make yearly collections of data for comparison and to note the effects that the timber cutting has on the existing deer herd.

Until this time, no information on deer populations in particular areas of the district was available. This is the first attempt to obtain such date.

Description of Area

Detour Point is a large peninsula extending into Eagle Lake. It is bordered on the north by Bottle Bay, on the northwest by Portage Bay, on the west by the Back Channel and on the south by Nash's and Temple Bays.

The peninsula is 5410 acres in area and is distinctly cleft near the centre dividing its area approximately in half. For convenience the survey was conducted only on the northeast portion which is 3200 acres in area.

The topography is generally rolling with rock outcrops lining most of the shoreline. The low swamp sites contain stands of stag black spruce while the higher drier sites have stands of mature to over-mature jack pine and poplar. Scattered patches of red pine and white cedar are found along the shoreline.

The soil is mainly a silty clay while the rock outcrops may be covered by a thin layer of humus.

Method

The browse survey and pellet group count was carried out in accordance with the standard method (Passmore, Hepburn, 1955), while the dead deer count was varied by the size of the crews.

Four 2 - man crews were used in order to complete the survey in a limited amount of time and also to give more of our personnel experience in this type of work.

Seven lines varying in length from 60 chains to 165 chains were run at one-half mile intervals in a northwesterly direction across the upper half of the peninsula. The browse plots were coincident with the crotising plots, while the dead deer count was over a one chain continuous strip.

Although moose are also present in the area, no data were collected at this time as deer in this case are of primary interest.

Crotising Count and Population Estimates

No. of days from leaf-fall to time of survey	212
No. of plots required to sample area	143
No. of pellet groups tallied	164
Average No. of pellets groups per plot	1.15
No. of pellet groups per deer per day	13

No. of deer per square mile

Formula - $$\frac{\text{Av. No. pellet groups/plot} \times 100 \times 640}{\text{No. days between leaf fall \& spring} \times 13}$$

$$\frac{1.15 \times 100 \times 640}{212 \times 13} = 26.7 \text{ or } 27 \text{ deer/sq. mile}$$

It appears from the above figures that this area is supporting a relatively high population of deer. However, if this number of 27 deer per square mile is compared to the available stems per acre and to the degree of browsing it then appears as though the range is capable of supporting a far greater number of animals.

It is not known whether this number of deer is low, average or high for the district as no comparable figures are available.

A limited error in this estimate may be attributed to the tallying of year old crotisings by inexperienced crewmen. Old crotisings are exposed due to lack of leaf-fall in conifer stands and as deer are present in the area at all times of the year the number of crotisings exposed may be higher than if the deer were only present during the winter. As deer in this district do not have the same tendencies to "yard" during winter months as they do in other parts of the Province, some variations in this method of survey may have to be developed in order to obtain a more accurate estimate.

Browse Conditions

A summary of the 143 sampled plots is contained in Table I.

A small amount of browsing was tallied with some maples receiving the heaviest utilization. None of the species received total utilization and the amount of stems killed or mutilated was low, indicating browsing to be light.

In analysing the Browse Plot Summary in Table I, it is easily seen that the range is far below its carrying capacity and is capable of supporting a larger number of animals.

Dead Deer Count

A 10 per cent dead deer count produced no evidence of any mortality.

Summary

1. A total of 4851 available stems per acre was calculated from the browse survey. Light browsing was encountered and a small percentage of stems were found to be killed or mutilated.

2. The pellet count indicated the population to be 27 deer per square mile. This number is felt to be low when compared to the available browse. More surveys will be required in order to obtain comparative figures.

3. The 10 per cent dead deer count showed no evidence of any mortality.

Acknowledgments

A vote of thanks is extended to all staff members who took part in this survey and to W. H. Charlton for his help in compiling this report.

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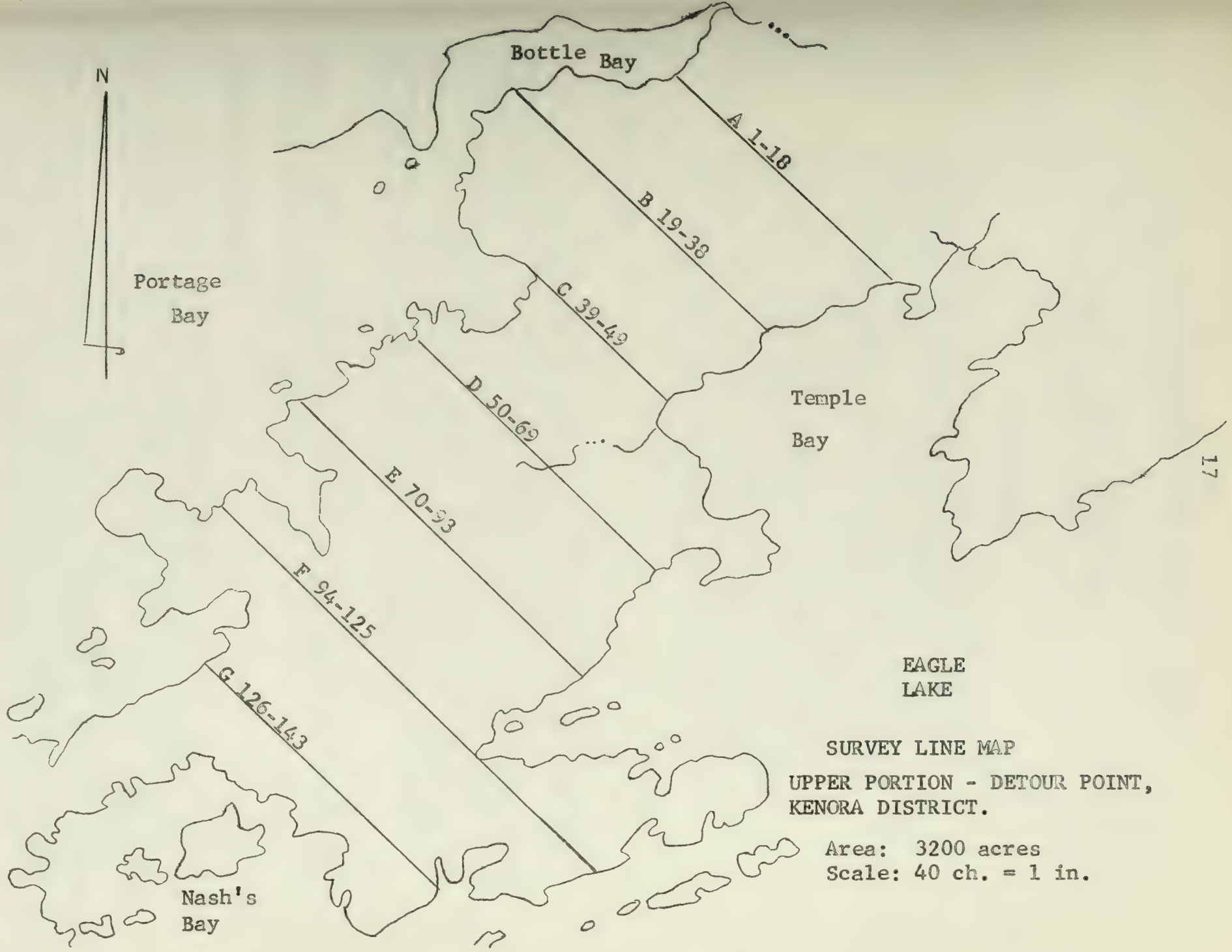
TABLE I - Plot Browse Survey

Species	∑K	∑L	∑M	∑LB	Freq. Index	Living Stems/ac.	% Stems Mutilated	% Stems Killed	% of Grand Total Productive Stems
Willow	--	11	--	1	.03	25	--	--	.5
Poplar	10	96	6	42	.27	222	6.2	9.4	4.5
Hazel	1	332	6	75	.22	760	1.8	0.3	15.8
Birches	1	109	--	31	.29	252	--	0.9	5.2
Juneberry	--	65	--	31	.16	150	--	--	3.1
Soft Maple*	5	443	13	173	.36	1022	2.9	1.0	21.0
Sugar Maple	--	33	--	24	.01	76	--	--	1.6
Dogwoods	--	45	2	29	.05	104	4.4	--	2.1
Viburnums	1	11	--	--	.03	25	--	8.3	0.5
E.G.**	6	207	--	29	.27	477	--	2.8	9.8
Alder	4	543	--	4	.26	1252	--	0.7	25.8
Ash	6	211	2	65	.16	486	0.9	2.8	10.0
TOTAL	34	2106	29	504	--	4851			

* Red, striped, mountain maples

** Highly palatable species (others) cedar, white pine, ground hemlock, mountain ash, sumach.



SURVEY LINE MAP

UPPER PORTION - DETOUR POINT, KENORA DISTRICT.

Area: 3200 acres
Scale: 40 ch. = 1 in.

DUCK BANDING, GOGAMA DISTRICT, 1963

by
D. J. Gawley
Senior Conservation Officer

Abstract

Banding operations at Halliday Lake, Grassy River watershed were again carried out for the eighth consecutive year. During an eight year period, 1848 black ducks, 77 mallards, 4 green-winged teal, 4 hooded mergansers, 1 blue-winged teal and 1 wood duck have been banded. The Atlantic Flyway Council considers the Halliday site to be the second most important black duck banding station in the area. Band recoveries have been received from nearly every state east of the Mississippi River. Of the 1619 ducks banded to 1962, 284 or 17.5 per cent band recoveries have been received. In 1963 - 229 black ducks and 19 mallards were banded.

Trap and Sites

Six traps of the lily pad design are used. Four are 8' in diameter and two are 16 feet. The smaller 8' traps have one entrance and the 16' traps have three entrances for ducks. The traps are made of 2" x 4" welded wire, 5 to 6 feet in height, with cotton netting over the top. Each trap has an attached holding pen 2' x 2' x 5'. The entrance door to the main part of the trap is 16" x 16" and the door on the top of the holding pen, used for removing the ducks, is the same size. This holding pen confines the ducks and makes handling easier while banding.

Trapping sites with sandy bottoms and less than 10" of water are the most productive. Traps are set next to the shoreline with the holding pen on dry land.

Trapping and Banding

Two weeks prior to actual banding time, the grass and weeds are cut at each trapping site and then baited with cracked corn. The second trip, traps are moved into the open so that ducks become accustomed to them and at this time they are rebaited. In the final assembling of the traps at each site, stakes are driven into the lake bottom to hold the traps in place; sections of wire are tied to these stakes. The cotton netting is then stretched across the top of the trap. At the end of banding operations, the main body of the trap is stored at the site and the cotton netting is removed.

During banding operations, traps are visited each morning, ducks are banded and recorded and the sites rebaited.

The 1963 banding program commenced on August 21 and ceased on September 13. These are approximately the same dates and number of days operated each year during the eight year period.

Results

Banding success - 1963.

Site	NEW BIRDS		REPEATS		TOTALS
	Blacks	Mallards	Blacks	Mallards	
Dog	7	2	5	-	17
Able	118	8	154	15	272
Charlie	45	3	10	1	58
Baker	0	1	5	-	8
Easy	16	3	27	7	57
Harry	43	2	49	4	108
TOTALS	229	19	250	27	520

Age - Sex Composition - 1963

Species	Adult Males	Adult Females	Immature Males	Immature Females	Per cent Juveniles
Blacks	9	12	123	85	90.8%
Mallards	1	2	10	6	84.2%

The total banded in any one year has dropped considerably from the first years operation. This may be attributed to increased logging and other activities in the area.

The following table is a yearly comparison of banding results.

Year	Days Operated	Blacks	Mallards	G.W.Teal	B.W.Teal	Wood Duck	Hooded Merganser	Golden-eye
1963	24	229	19	-	-	-	-	-
1962	23	246	15	-	-	-	-	2
1961	24	108	4	-	-	-	-	-
1960	26	158	5	-	-	-	-	-
1959	27	197	1	-	-	-	-	-
1958	24	267	11	1	2	-	2	-
1957	22	193	11	1	-	1	-	-
1956	24	448	11	2	-	-	2	-
TOTALS	194	1848	77	4	2	1	4	2

Each trap site has been appropriately named for record purposes and locations are shown on the map.

The following table is a comparison of banding success by trap site for the past four years.

Able trap has been the most productive trap; this is one of the larger traps and is ideally situated on the main part of Halliday Lake at the entrance of a narrow leading into one of the adjoining bays. The site itself is open (very little vegetation) and the lake bottom is hard sand with less than 10 inches of water.

Success by Banding Site

Site	Species	1960	1961	1962	1963
Dog	Blacks	8	2	32	7
	Mallards	-	-	1	2
Charlie	Blacks	27	21	16	45
	Mallards	1	-	2	3
Baker	Blacks	4	19	21	-
	Mallards	1	-	1	1
Able	Blacks	63	42	114	118
	Mallards	2	2	7	8
	Goldeneye	-	-	2	-
Easy	Blacks	52	6	24	16
	Mallards	1	1	2	3
Harry	Blacks	2	18	26	43
	Mallard	0	1	1	2
TOTALS	Blacks	156	108	233	229
	Mallards	7	4	13	19
	Goldeneye	-	-	2	-

Predation

The most serious problem is predation by mink. A total of twelve blacks and one mallard were killed.

Most of the predation was at two trap sites (Dog and Baker) with the result that few ducks were trapped at either of these sites.

Several mink and one fisher were trapped. A bear partly destroyed one of the traps.

Banding Returns

Of the 1619 ducks banded at Halliday Lake (not including 1963) a total of 284 or 17.5 per cent band recoveries have been received.

The place and number of recoveries are shown on the following table and map. Band recoveries have been received from nearly every state east of the Mississippi River.

Places of Returns and number by year of Recovery.

Location	1956	1957	1958	1959	1960	1961	1962
Ontario	23	31	24	11	13	23	15
Michigan	2	5	2	2	-	-	4
New York	2	2	3	1	2	2	2
New Jersey	1	3	4	3	2	-	1
Ohio	3	3	-	1	2	1	-
Virginia	1	4	3	2	-	-	1
Maryland	4	4	-	4	-	-	1
N. Carolina	2	1	2	-	1	1	-
S. Carolina	1	1	1	1	2	1	2
Arkansas	1	-	2	2	1	-	-
Delaware	-	-	3	1	-	-	1
Indiana	1	-	2	-	1	-	1
Tennessee	1	1	-	-	-	2	1
Alabama	-	1	2	-	-	-	1
Mississippi	-	1	-	3	-	-	-
Wisconsin	-	3	-	-	-	-	-
Kentucky	1	-	2	-	-	-	-
Pennsylvania	1	1	-	-	1	-	-
West Virginia	-	-	1	2	-	-	-
Louisiana	1	-	1	-	-	-	-
Quebec	-	-	1	-	1	-	-
Minnesota	-	-	-	-	1	-	-
Florida	1	-	1	-	-	-	-
Manitoba	-	-	-	-	-	-	1
Minnesota	-	-	-	-	1	-	-
New Hampshire	-	-	-	-	-	1	-
TOTAL	46	61	54	33	28	31	31

Conclusions

The results of this operation would indicate that it is certainly worth continuing.

To increase production more stress should be placed in live-trapping predators. Several of the traps should be moved to more desirable locations.

The project operates very smoothly with one Treaty Indian, under the supervision of conservation officers.

COMPARISON OF DAILY RECORD OF DUCKS BANDED 1956 - 1963

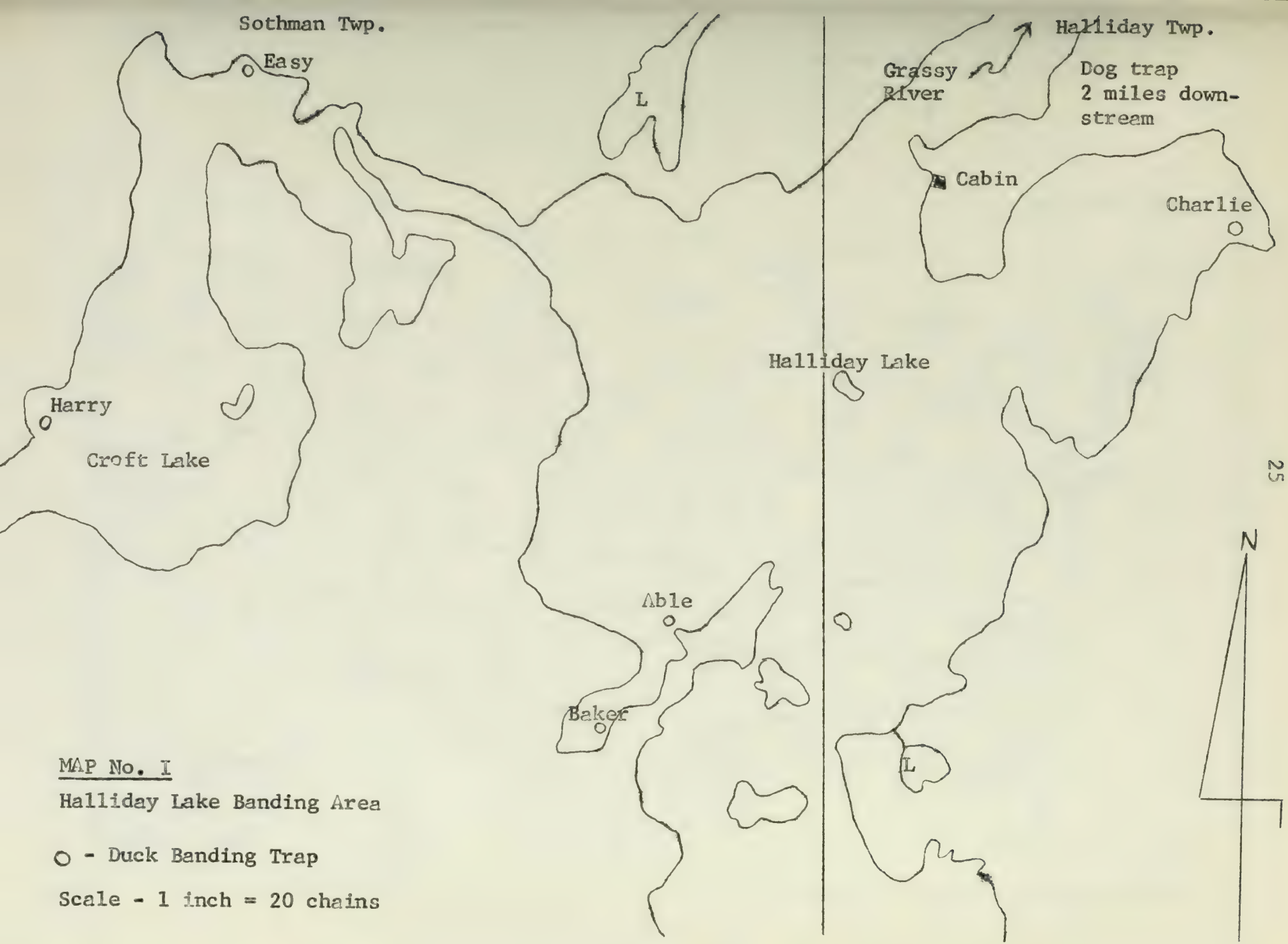
August and September dates

August

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1956								8	22	39	40	20	13	20	16	13
1957	10	18	14	14	10	7	23	12	9	8	11	12	11	9	4	4
1958				6	11	13	3	9	12	2	12	15	12	17	15	11
1959							2	0	9	1	24	13	13	32	5	11
1960				4	0	2	17	1	1	4	2	2	8	5	2	3
1961				0	0	0	0	4	8	9	3	6	7	3	2	4
1962							14	15	11	25	9	6	16	10	10	12
1963						51	8	19	9	14	5	3	13	6	9	3

September

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1956	16	6	10	24	21	21	30	15	31	28	14	13	17	10	13	
1957	3	4	1	1	4	10										
1958	7	29	23	9	24	11	8	20	9	6	2					
1959	13	8	9	12	3	7	3	2	6	8	2	6	9			
1960	3	12	0	12	3	13	11	14	10	2	12	3	12	4		
1961	4	2	0	4	1	5	3	11	3	2	7	2	15	3		
1962	16	10	14	9	19	5	19	6	7	16	2	7	5			
1963	12	7	11	5	18	9	9	7	11	12	5	11	5	0		

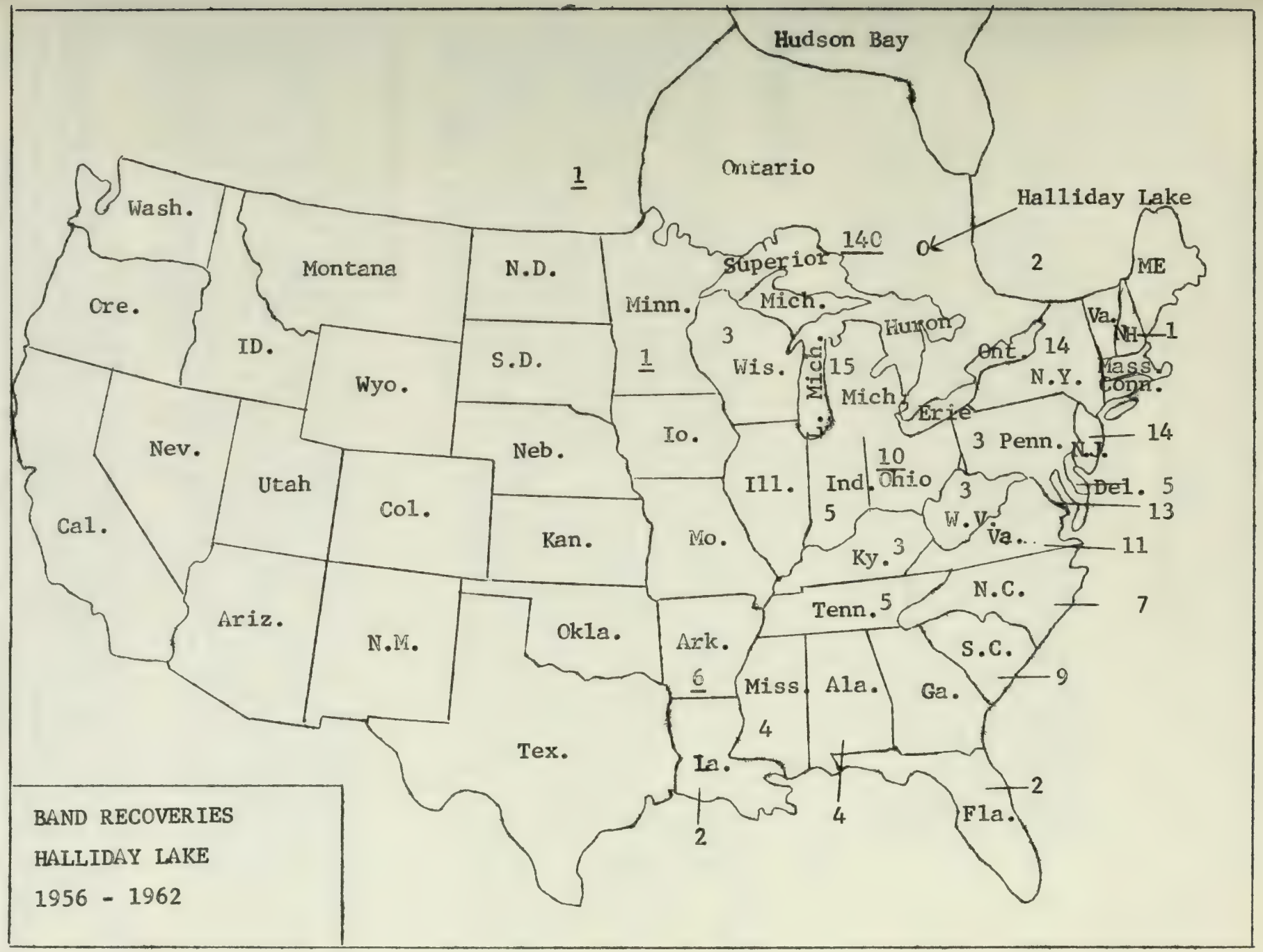


MAP No. I

Halliday Lake Banding Area

O - Duck Banding Trap

Scale - 1 inch = 20 chains


Hudson Bay
Ontario
1
Halliday Lake
Wash.
Montana
N.D.
Minn.
Superior
140
Mich.
Huron
Ore.
ID.
Wyo.
S.D.
1
3
Wis.
Mich.
15
Mich
Ont.
14
N.Y.
Mass.
Conn.
Va.
NH
1
ME
2
Nev.
Utah
Col.
Neb.
Io.
Ill.
Ind.
10
Ohio
Erie
3 Penn.
N.J.
14
Del.
5
13
Cal.
Kan.
Mo.
5
W.V.
Va.
11
Ky.
3
Ariz.
N.M.
Okla.
Ark.
6
Tenn.
5
N.C.
7
S.C.
9
Miss.
4
Ala.
Ga.
Tex.
La.
2
4
Fla.
2
BAND RECOVERIES
HALLIDAY LAKE
1956 - 1962

GERALDTON DISTRICT DUCK BANDING PROJECT - 1963

by
B. H. Gibson, Biologist

Abstract

The duck banding station operated at Arm Lake in the Geraldton District resulted in 226 ducks being banded. Eight species were represented in the captures. The station was in operation from August 14 to September 10, 1963. Black ducks accounted for 143 (63.3%) and mallards 60 (26.5%) of the total. Results obtained from experimenting with three slightly different trap types indicate that large, multi-duck entrance traps are superior to small, single entrance traps.

Introduction

The 1963 Geraldton District duck banding station was located at Arm Lake; this is the fifth consecutive year of operation at this site. The banding has been conducted because of a request from the Canadian and United States Wildlife Services. The banding program's aim is to band as many waterfowl as possible in Canada during August and the first week of September in areas where fall concentrations exist. Attention is focused on blacks and mallards. From these pre-season bandings data are derived which assist in interpreting the age ratio information obtained from duck wing surveys conducted in the United States. Variations in mortality rates for waterfowl between various ages and harvest areas can be determined from these banding programs.

Description of Area

Arm Lake is a 197 acre dystrophic lake, located approximately 25 lineal miles northeast of Geraldton. It is easily reached via Highway 584 and Murky Creek. Latitude and longitude of the trapping site are 50°01'30" and 86°45'00" respectively. The average depth of Arm Lake is four feet; a foot thick layer of organic material covers the coarse gravel bottom. This allows an abundant growth of wild rice (Zizania aquatica) to cover almost 75 per cent of the water surface area of the lake.

The yellow water lily (Nuphar sp.) and the floating pondweed (Potamogeton sp.) are common floating aquatics in the lake. The chief submergent is coontail (Ceratophyllum sp.) which is abundant. Common emergents are cattail (Typha sp.) and arrowhead (Sagittaria sp.) Scarce, but present, are horsetail (Equisetum sp.) and bulrush (Scirpus sp.) Arm Lake is considered to be an ideal nesting, feeding and loafing area for waterfowl.

Bordering Arm Lake, the chief tree species are white birch (Betula papyrifera), poplar (Populus tremuloides), cedar (Thuja occidentalis) and black spruce (Picea mariana). Alder Alnus sp.), willow (Salix sp.) and black ash (Fraxinus nigra) are present, but scarce.

Method and Materials

Four traps were placed on the same sites on Arm Lake that were used in 1962. (see map of Arm Lake). Trap number 1 was erected on August 13. This trap was constructed of 2 inch by 4 inch mesh spot welded wire and was 4 feet in height. Six foot long aluminum alloy rods of 3/8 inch diameter supported this and the other traps. This trap had a single tubular funnel and was circular with a 12 foot diameter.

Traps numbered 2, 3, 4 were constructed of 2 inch by 2 inch mesh spot welded wire and were also 4 feet high. Traps numbered 2 and 4 were of the conventional lily pad design with a single full height funnel entrance; the diameter of each was 10 feet. Trap number 3 had three full height funnel entrances. This was the largest of the traps, being 12 feet wide in the front portion of the trap with the back section being 8 feet wide. Each trap was covered with discarded trap netting of from 1-1/2 to 2-1/2 inch stretched mesh. These traps are similar to those illustrated in diagrams 24 and 25, Section B of the Guide to Waterfowl Banding (Addy, C. E. et al, 1956).

All traps were placed with the removal door in one foot of water. Depths at the duck entrances were 1-1/2 to 2 feet. Trap number 2 was set up on August 14, trap number 3 on August 15, and trap number 4 on the 30th. A distance of five to ten feet separated traps numbered 1, 2, 3. Trap number 4 was 200 feet north of the other three traps.

An influx of blacks and mallards apparently took place about August 25 because a flock of approximately 125 birds was seen on the 26th. Several American widgeon were also observed on this date; on August 27, 15 ducks were captured. Daily captures after this date varied from five to a high of 37 ducks. On August 27, we lost eight ducks that escaped from the three entrances of trap number 3 while we were removing ducks. On August 28 we added a collecting box to trap number 3 (see diagram at back), connected to the trap by a runway. Swinging doors were placed at the exit from the trap to the runway and at the entrance to the collecting box.

When this trap was now approached, all the ducks would move to the far end of the trap and into the runway. Door 1 was then closed from the front of the trap by means of a pull rope. Once in the runway, the birds were easily driven into the collecting box; door 2 was then closed by a pull rope from the front of the trap. The ducks could then be removed easily through a slit in the netting covering the box. None escaped once they were in the runway and catch box.

Several ducks escaped from the three other traps with no catch box. While removing captured ducks in these traps, some found the entrances and escaped under water. Escapes of this type were stopped by permanently blocking the submerged portion of the entrance. A piece of 2 inch by 2 inch mesh wire extending from the lake bottom to about two inches below the water surface was effective. Plugging the entire entrance with the same wire would prevent surface escapes of ducks as well as under water escapes.

The most satisfactory arrangement was as in trap number 3 with its collecting box. Not only did this trap have fewer captured birds escape, but it captured more ducks than the other three traps combined (58 per cent of total). It appears that the larger the trap, the faster and greater the catch. This has been reported also by Hanson in the Guide to Waterfowl Banding. Probably the three duck entrances of trap number 3 also contributed to its success. With the four traps, daily catches of 37 ducks were realized on two occasions (September 4 and 6), the highest individual day's catch. The success of trap number 3 is believed to be responsible for capturing the greatest number of waterfowl in the five years of banding in this District.

Only three ducks died in the traps. One black died of a broken neck; one black apparently drowned; one mallard died of unknown cause. One of the blacks died after being placed in trap number 3 as a decoy after being banded. It is believed that the twice daily checks of the traps were responsible for this low loss.

The use of live decoys in the traps was tried on two occasions and discontinued because they did not appear to increase the daily catch. We were also concerned with possible injury resulting to these ducks during their confinement.

Rubber decoys placed inside the traps were used during the first week of the project in an attempt to attract ducks to the traps; they were removed as they did not lure the birds.

There were 21 repeat trappings of ducks this year. Mallards accounted for 11 of these; blacks numbered 10. No returns of ducks banded at Arm Lake in previous years were encountered in contrast with 1962 in which two returns were recorded.

Table illustrating the species, age and sex composition of the ducks banded at Arm Lake during 1963.

Species	Adult		Immature			Per cent of
	Male	Female	Male	Female	Total	Total Banded
Black (Anas rubripes)	9	4	69	61	143	63.27
Mallard (Anas platyrhynchos)	7	0	28	25	60	26.54
Lesser scaup (Aythya affinis)	1		4	5	10	4.42
American widgeon (Mareca americana)			2	3	5	2.21
American goldeneye (Bucephala clangula)			1	2	3	1.33
Pintail (Anas acuta)		1	1		2	0.88
Blue-winged teal (Anas discors)			1	1	2	0.88
Green-winged teal (Anas carolinensis)				1	1	0.44
					226	99.97

Recommendations

1. Experimenting with various trap designs and sizes has been proven to have merit. Because of the marked success of trap number 3 this year, next year's trapping should involve more use of large, three entrance traps.

2. All traps next year should have a collecting box similar to trap number 3. The box will help to reduce escapes through the entrances. Removal of the ducks from the box is easier and faster than capturing them in the trap with a landing net. This is especially true with large traps. Because removal is faster, injury and fright to the ducks is probably reduced.

3. Checking the traps twice daily and removing ducks captured is best. Rebaiting the traps and entrances is advised each time the trap is checked.

4. Experiments should be conducted with "one way" doors on the duck entrances next year. This type of door might help to prevent escapes of ducks.

5. The use of live ducks as decoys in the traps is not recommended. The birds are too easily excited in the traps and are easily injured. The catch is not increased significantly by their use.

6. Whole grain barley and cracked corn appear to be better bait than the whole grain wheat and whole kernel corn used last year. Barley, being less dense than wheat, does not sink into the soft bottom as readily.

7. Arm Lake is presently the best locality for waterfowl banding in this District. Banding efforts should be confined to this lake unless a more suitable site can be found.

8. Upon erecting a trap, immediate baiting is suggested. This has worked well in the five years we have trapped ducks. The waterfowl appear to readily accept the presence of a trap.

9. Discarded trap netting of small mesh is ideal for covering the traps. Old gill netting should not be used because ducks were easily caught in it during the 1962 banding program in which it was used.

10. Lead fences as illustrated in figure 24, Section B of the Guide to Waterfowl Banding should be tried on some of the traps to increase the catch of ducks.

11. It is recommended that the Geraldton District continue the banding program for as long as it is requested by the United States and Canadian Wildlife Services. As we gain experience in waterfowl trapping we hope that our catches will increase. A catch of 300 or more ducks next year is conceivable, based on our results for 1963.

12. The site of the trap is important. Last year, attempts were made to lure ducks to areas where they did not normally congregate. This was futile. It is suggested that the traps be brought to the birds instead of attempting to bring the ducks to the traps.

13. Escapes of ducks from the single funnel entrance traps could probably be reduced by having the funnels face shore instead of towards the centre of the lake. In escape attempts, most birds try to exit through the side facing open water. With the funnel on the shore side, few birds would find their way out.

Summary

At Arm Lake, 226 ducks were banded during the summer of 1963. Blacks accounted for 63.3 per cent and mallards 26.5 per cent of the banded total. Eight species were represented in the captures. The initial year of using large, multiduck entrance traps met with good success; the largest trap captured 58 per cent of the ducks.

Acknowledgments

Appreciation is extended to Conservation Officers F. G. Cornell and J. A. Chappel for their constructive criticisms during the banding program. The success of the project depended largely on their help.

Literature cited

Addy, C. E. et al 1956. Guide to Waterfowl Banding. U. S. Fish & Wildlife Service, Laurel, Maryland.

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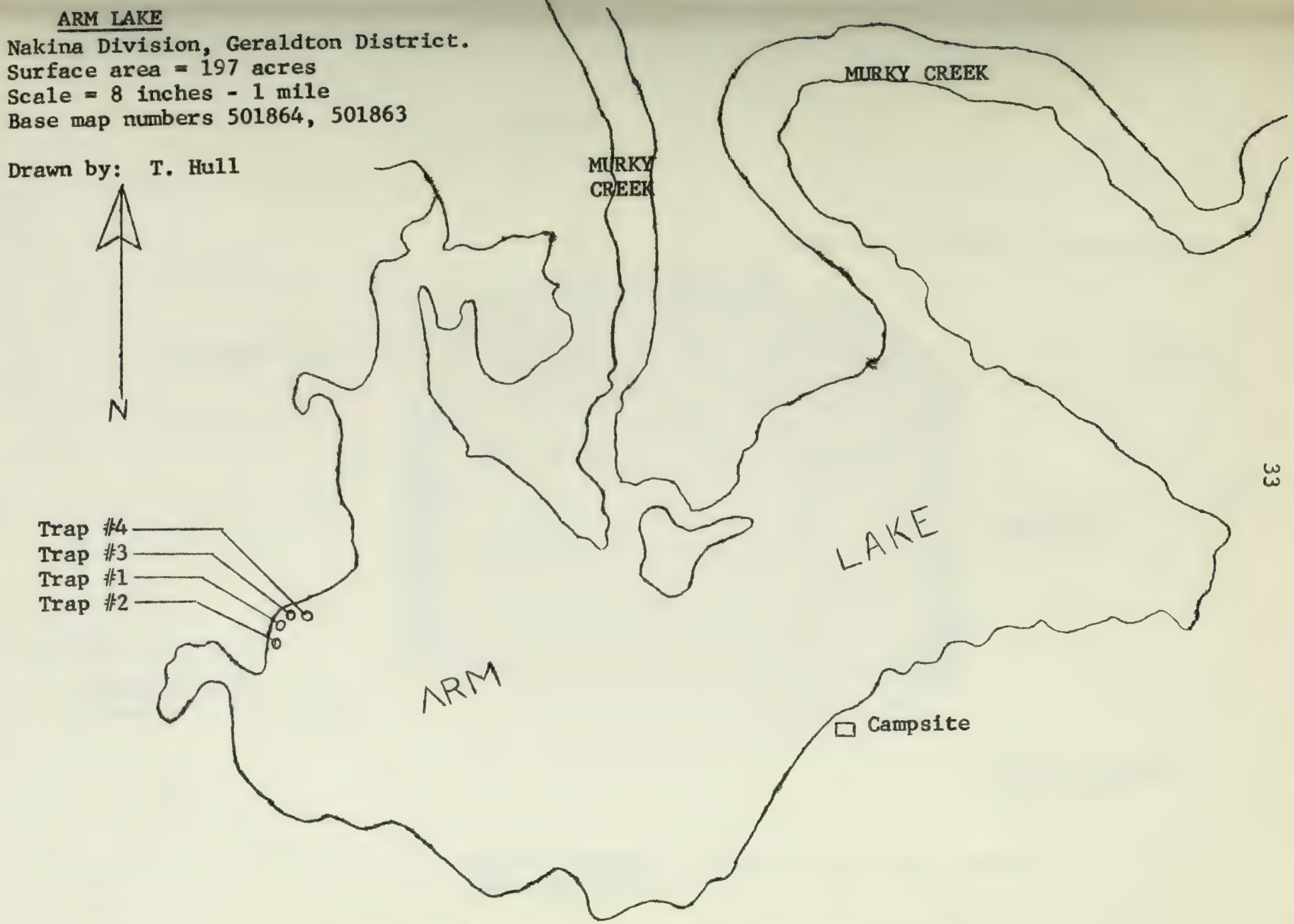
Kortright, F. H. 1953. Ducks, Geese and Swans of North America. The Stackpole Co., Harrisburg, Pa. pp. 31-37.



ARM LAKE - Showing sites of duck traps during 1963

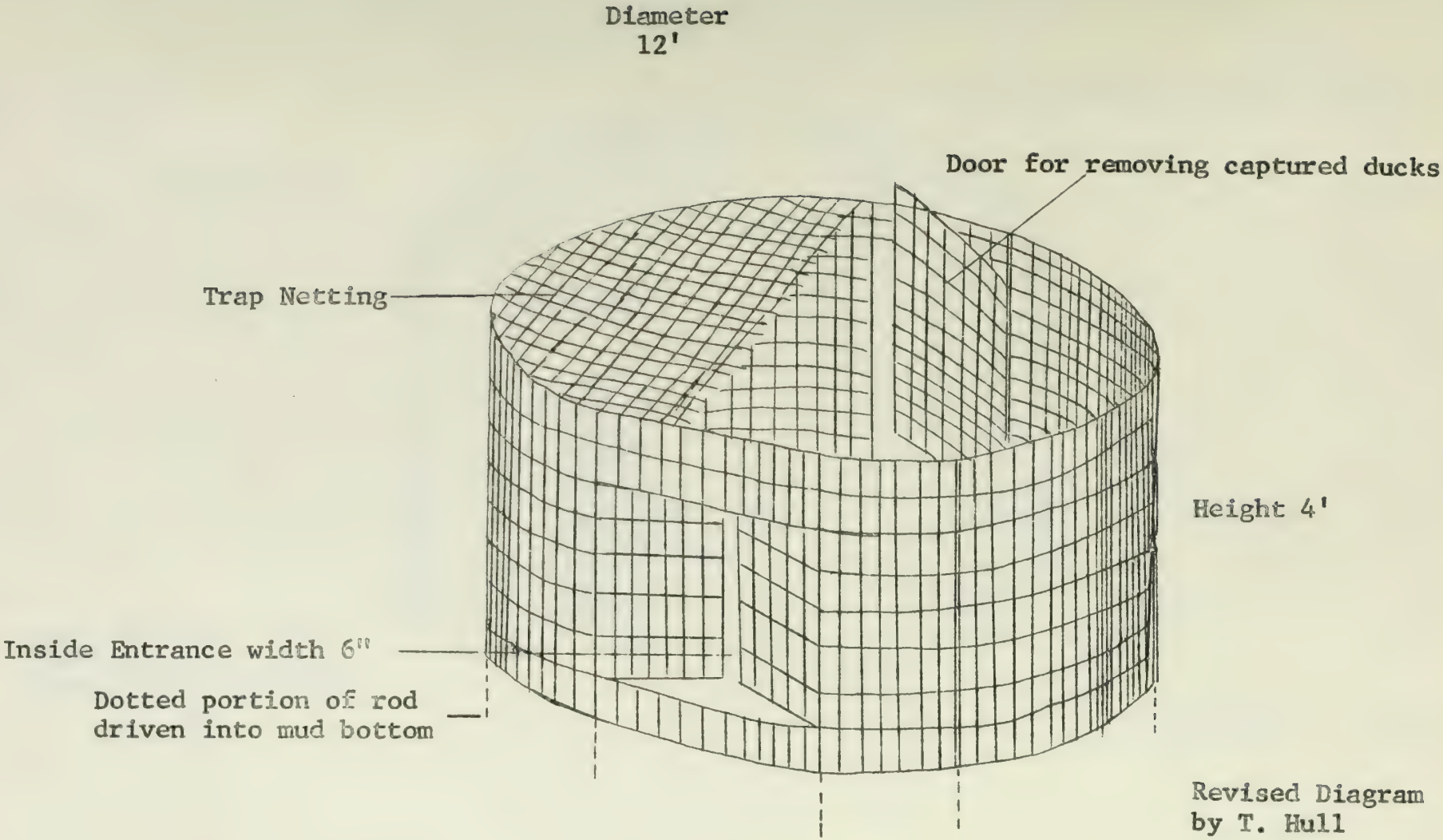


Diagram showing dimensions and tubular funnel of duck trap number 1.

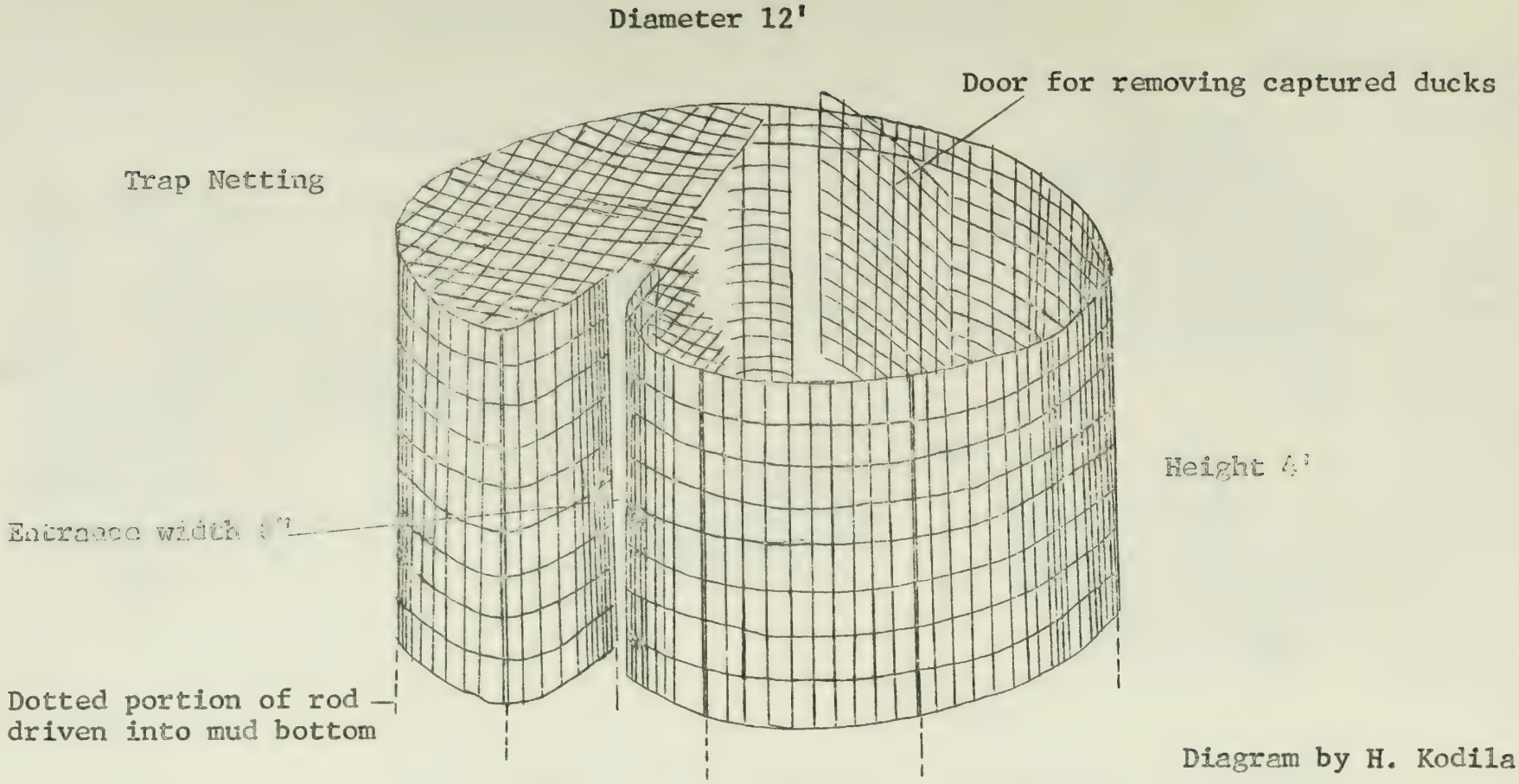


Diagram showing dimensions and full height funnel of duck traps numbers 2 and 4.

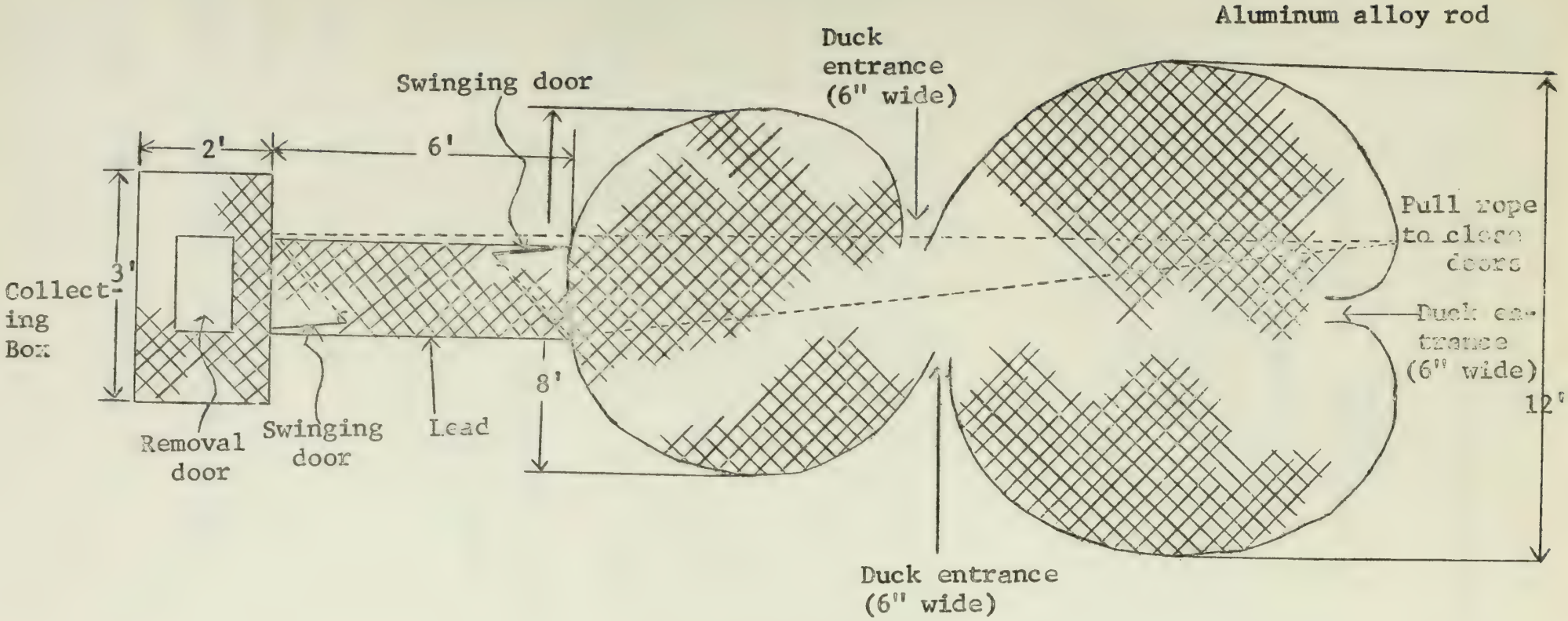


Diagram showing design and dimensions of trap number 3 as viewed from above.

Note: Diagram is not to scale.

Diagram by T. A. Hull

WOOD DUCK BANDING, LAKE SIMCOE DISTRICT, 1963

by
J. S. Dorland
Assistant Senior Conservation Officer

Abstract

During the second year of the wood duck banding project in this District, five different sites were trapped by two officers, and one civilian, for a total of 58 trap-days. During this time 66 wood ducks were banded and released. Trapping commenced on August 12 and was discontinued at all sites by September 8.

Method

Live traps were erected at four different sites within the District, namely, Gibson Lake area, in Albion Township, Henderson and Latimer ponds in Tosorontio Township and at Marshall's Terra Nova pond in Mulmur Township, and in addition to the above, Mr. D. M. Marshall carried out live trapping of wood ducks at his own pond in Hornings Mills. Traps were prebaited and left open at the top for a week prior to the commencement of live trapping. At the three ponds situated in Tosorontio Township and Terra Nova area, bait used consisted of 50 per cent corn and 50 per cent hard red wheat. The corn was taken ahead of the wheat and could be seen much better by the ducks. The live trapping continued from August 12 to September 8 with inspection of the traps made daily and in some cases twice a day.

Costs of Wood Duck Banding Project

Five traps 5' x 4'	- one roll of 1/2 inch chicken wire	$ 14.50
	- 250' of 1 x 6 spruce	13.52
	- Miscellaneous	1.78
		$ 29.80
Labour, one man, 15 hours @$3.00		$ 45.00
Feed, 350 lbs. of corn and wheat		$ 12.23
Two officers, approximate total time 16 days		
		$ 87.03
D. M. Marshall (feeding and banding)		$ 38.00
		$125.03

Results

A total of 66 wood ducks were banded and released at the five traps. (See Table I). As wood ducks in numbers are difficult to find in the District, it was only natural to feel at the beginning of the project that trapping sites at other than D. M. Marshall's pond at Hornings Mills would be treated as experimental this year. As may be noted in Table I, the majority of birds trapped were immature and only at Marshall's Pond, Hornings Mills, where live trapping was carried on with a large hand operated trap, were numbers of adults trapped.

In Table II recaptures are shown and it is interesting to note that at Marshall's Hornings Mills pond, six birds banded in 1962 were recaptured and found to be in good health. They consisted of two males and four females. Table III shows band numbers and dates of banding and recapture at this site. At the same trap site nine birds banded this year were recaptured during later banding. At the Latimer trap 16 birds were banded, all immature. Table II shows that at this trap there were 29 recaptures. Many of these birds were recaptured over and over in an attempt to catch adult birds present, which apparently would not, or could not, enter the trap.

Conclusion

Although success in this three-year project, which has one year to go, in the matter of numbers of birds banded, seems to escape us, we now feel that in order to band any numbers of wood ducks in this District, we will have to look for new trapping sites other than the one site at Hornings Mills. It may be difficult to find sites where trapping may be done economically, as this year's expense, not including two men for 16 days, amounted to some $115.00, or approximately $1.90 per bird banded. With such a cost it is questionable if such a project is worth it in an area where any large numbers of wood ducks are most difficult to locate.

Two copies of Banding Schedule Form 3-860 have been forwarded to Chief, Canadian Wildlife Service, Ottawa.

The writer would like to thank Conservation Officers Fred Marshall and Jack Catcher, and Mr. D. M. Marshall of Hornings Mills, for their efforts in attending the traps and forwarding data from which this report is compiled.

TABLE I

WOOD DUCK BANDING 1963, LAKE SIMCOE DISTRICT

Location of Trap	Days of Operation	Number Banded	Imm. Male	Imm. Female	Adult Male	Adult Female
Marshall's Pond, Terra Nova	13	2	1	1		
Marshall's Pond, Hornings Mills	3	38	12	5	12	9
Latimer's Pond	13	16	7	9		
Henderson's Pond	11	4	3			1
Gibson Lake	18	6	2	2	2	
TOTAL	58	66	25	17	14	10
				42		24

TABLE II

RECAPTURES

Location	Date	Imm. Male	Imm. Female	Adult Male	Adult Female	Total	Year Banded
Marshall's Pond at Horning's Mills	Aug. 29-Sept. 5			2	4	6	1962
"	Aug. 29,31 Sept. 5	2	3		4	9	1963
Gibson Lake	Aug. 12-Sept. 8	1				1	1963
Latimer Pond	"					29	1963
Henderson Pond	"					13	1963

TABLE III

WOOD DUCK - RECAPTURES - 1963 - AT HORNINGS MARSHALL'S POND MILLS

60675911	Male	Banded 28 Sept. 62	Recap. 3 Sept. 63
60675929	Male	Banded 28 Sept. 62	Recap. 3 Sept. 63
60675930	Female	Banded 28 Sept. 62	Recap. 5 Sept. 63
60675931	Female	Banded 28 Sept. 62	Recap. 29 Aug. 63
60675948	Female	Banded 28 Sept. 62	Recap. 3 Sept. 63
60675957	Female	Banded 28 Sept. 62	Recap. 5 Sept. 63
62623101	Female	Banded 16 Aug. 63	Recap. 31 Aug. 63
62623102	Male	Banded 16 Aug. 63	Recap. 5 Sept. 63
62623104	Female	Banded 29 Aug. 63	Recap. 5 Sept. 63
62623106	Male	Banded 29 Aug. 63	Recap. 5 Sept. 63
62623109	Female	Banded 29 Aug. 63	Recap. 5 Sept. 63
62623114	Female	Banded 29 Aug. 63	Recap. 5 Sept. 63
62623116	Female	Banded 31 Aug. 63	Recap. 5 Sept. 63
62623122	Female	Banded 31 Aug. 63	Recap. 5 Sept. 63
62623123	Female	Banded 31 Aug. 63	Recap. 5 Sept. 63

D. M. Marshall
Hornings Mills.

SPRING GOOSE HUNT ALONG JAMES BAY BY LOCAL INDIANS, 1963

by
A. Gagnon

Abstract

In order to obtain first hand knowledge of the use of wildlife by local Indians, the writer spent 32 days, from April 6 to May 7, 1963 at Nattabisha Point, some 30 miles northeast of Moosonee, and at Boy Bluff, living with Indian families while they hunted, killed and preserved geese and other animals for future use. During this period nine families consisting of 22 adults and 18 children killed, consumed and preserved 294 geese, 240 ducks, 21 non-game birds, 88 upland game birds, 2 beaver and 21 rabbits.

The following report concerns the spring hunt of Canada geese, waveys, ducks, owls, hawks, ptarmigan, sharp-tailed grouse, ruffed grouse, spruce grouse, rabbits and fur-bearing animals at Nattabisha Point, 30 miles northeast of Moosonee, along the coast of James Bay.

The purpose of my stay with the Indians, for the second consecutive year, was to study their ways of spring hunting also their methods for preparation and curing of waterfowl for the summer months, as one of their main items of food. Their ways of early and late spring survival and movements along the coast were also studied. The collection of further specimen material for Mr. H. Hanson was arranged. Other details included compiling a record of the number of birds killed by species per day and hours spent in blinds per day, weighing and sexing of all Canada geese killed.

The writer and Thomas Archibald, Chief of New Post Band, spent 32 days with seven families at Nattabisha Point and two families at Boy Bluff, from April 6 to May 7. Transportation to Nattabisha Point was made by snowmobile pulling a sleigh loaded with a 22 foot freighter canoe and the necessary camping equipment. Transportation in returning to Moosonee was again accomplished by travelling 15 miles on the coastal ice by dog team, pulling the sleigh and canoe along with the necessary equipment, and over 15 miles of open water up river by canoe to Moosonee. This spring, it was necessary to travel close to the shoreline due to ice conditions four to five miles out, thus making it much harder to travel due to all creeks being open and too shallow to float a canoe and being from one

hundred to three hundred feet in width. When the conditions were in our favour, some of the creeks were crossed by placing floating ice layers across gravel shoals to act as a bridge. This was found to save time and energy rather than unload the canoe and equipment from the sleigh and portage across the shallow streams. Last year, the trip took onewhole day to travel against two and a half days this spring. (Estimation of the weight of our equipment to travel on our return trip, which consisted of a nine foot sleigh, canoe, outboard motor, gas, specimens, heads in formaldehyde and necessary equipment, was approximately 700 pounds.)

During the early part of April, before the bird migration, the Indians, who trap along the coast and inland, were busy getting organized by moving their equipment from the winter hunting grounds to Nattabisha Point by dog team. This point, which is high with dry gravel shoals is not affected by the spring floods. It has a tremendous amount of driftwood which is very important along the coast as fuelwood, and is picked by the old Indians as an ideal place for camping during the spring hunt.

The coastal Indian appears to be more of a hunter than a trapper, trapping just enough to buy groceries for the necessary requirements, such as flour, sugar, tea, baking powder, lard, shells and a few clothes. No doubt, this is due to their areas not having the abundance of wild fur-bearing animals, such as the inland trapping areas have. Their source of income is small and they are forced to save and cure as much wildlife as possible for the summer months. Their main items of food by seasons consist of Canada geese in the spring, fish during the summer months, blue and snow geese in the fall, and moose, beaver, grouse, ptarmigan and rabbits in the winter months.

Early Spring Hunting

At the break of dawn most of the people would leave camp for the day to look at their rabbit snares and also to hunt ptarmigan and grouse. Very few rabbits were caught this spring due to a low rabbit population. The younger men were also hunting moose and the old people, women and men alike, would set hawk and owl traps. The traps were set on top of poles approximately five feet high and placed along the edge of the ice. These traps were visited at day break and whenever birds were caught, this would bring quite a smile on the faces of the old people, as they consider the birds a delicacy in early spring especially when the birds were fat and in good eating condition.

The first migratory birds to be seen were five Canada geese, on April 12 which started the Indians making wooden decoys, also snow and ice blinds. Some of the blinds were situated inside and outside the willow line depending on the large marsh opening and others were as far as three-quarters of a mile out on the ice.

When the hunting started, fourteen hunters covered the coastline from the west side of Boy Bluff to the east side of Crooked Creek. This would be an area of approximately 20 miles of coastline using dogs for transportation to and from their blinds. The average hunter would use from 10 to 25 decoys. Most of the blinds were occupied by two hunters while others were used individually.

Migration

Due to heavy south winds in the early part of April, the ptarmigan population took advantage of the favourable winds to migrate to their nesting grounds, thus the hunters had only half the kills of last year. The last two killed were on April 24. All kills this spring were plump and in good condition.

The first snowy owl killed was on April 11.

A marsh hawk was seen and killed on April 13.

A great horned owl was seen and killed on April 13.

A hawk owl was seen and killed on April 17.

Killdeer and gulls were seen on April 16.

Blue and snow geese were seen on April 24.

Yellowlegs were seen on April 26.

One large grey seal was found washed in by high tide. It weighed approximately 600 lbs. In good condition it was used as dog food. The cause of death is not known.

No extra heavy Canada geese were shot this spring. The Indians claim that the flyway for the so-called Fort George geese is east of the southern part of James Bay. Arrangements are being made with the Fort George Indians to collect two large specimens for the Research Station. They should be available as soon as open water transportation by Airways start operating on the east coast.

The hunters started to occupy their blinds on April 14 and returned in the evening with no kills, but they had seen three flocks flying north, too far out to be called to the decoys. On April 15, the first two Canada geese were bagged. That evening the women prepared the birds and everybody in camp had a small portion for the first time this year. The big feast took place on April 16 when 10 Canadas were bagged and brought to camp for the women to pluck and clean for the big occasion. That evening the feast had begun, having what they call "cakabonn", which is roasted in the open fire, by having the Canadas hung on a three foot string and

twirled at a slow motion for approximately one and one half hours until cooked. Beneath the birds, a flat pot or frying pan is laid to collect all the fat that drops from the birds. This fat is used for cooking and is saved for the summer months to be used in making bannock etc. The Indians much prefer the goose fat as a substitute for butter. Along with the birds, they made a large plum pudding as a specialty for this occasion.

This year, due to heavy south winds during the time the Canadas were migrating north, there was very poor hunting throughout the James Bay area, leaving the Indians with less than half of the hunting success of the previous year. From April 15 to May 5, the kills varied from zero per day, to 53 per day. Wind direction and weather conditions are a big factor in controlling the spring hunt throughout the James Bay area.

This spring, many hours were spent in the blinds for the number of birds killed, the younger men would go away from the main camp for two or three nights by dog team (12 to 15 miles) and would return with their kills for the women to pluck and clean. Seeing that the birds were scarce, practically every part of the bird was used. A blood pudding was made by using the lungs and goose blood. This would be boiled along with some rolled oats to form a thick broth which they call "opanaboue", and some of the birds would be made into what they call "namasteak". The bird is plucked and skinned with approximately 1/4 inch of lean meat left on the skin to preserve the fat, then hung on poles in a wigwam for about 10 days over a light smoke. Willow wood is used to dry, cure and smoke the meat to a degree that it will keep during the summer months. The gizzard is also cut open, cleaned and cured in the same manner, whereas the livers are fried or boiled. The hearts are usually put on a stick and cooked over an open fire, this they call "ahbonn". The entrails are emptied and cleaned, then fried in a large cast-iron pot to save the fat, which is drained and stored in a pail for later use. Tripe is eaten with boiled meat or bannock and tea for lunch. The feet, forward parts of the wings are also cured and kept for the summer months, to be used for soups etc. The heads and the top part of the neck combined are cooked by the pot full. Goose blood is also used in stews and stuffing of birds with bannock or rolled oats. Down feathers are also collected and used for making homemade eiderdowns for their bedding. Due to shortage of food, the preparations and uses of the goose results in practically nothing being wasted.

During my stay along the coast, the hunters were approached for more information on the hunters' success of Canada geese kills and to see if they could remember back ten or more years the difference of time spent in their blinds during the spring hunt. They claimed they could recall 4 or 5 years back when the birds were in full swing on their migration north, that only half the time was spent in the marsh. They had to slow down the hunting so that the women could

catch up with the processing of the birds. They claimed that this is one of the poorest hunting years they have seen for along time. They seemed to blame the weather, a low goose population or a change in their flyway.

Ducks

The population of ducks was high this spring in the Nattabisha Point area. The pintail, being the predominent species, followed by the black duck, mallard, green-winged teal and baldpate. The kill of ducks was heavier than last year probably due to a lower goose population in the area.

Canada Goose heads, wings, tarsi and feet and tail feathers from a series of birds numbering from one to fifty-seven were collected this spring, along with one hundred and seventy-eight Canada goose tail feathers. Also, one juvenile whistling swan, head, wings, tarsi and feet, were sent to Maple for study. They will then be forwarded to Mr. Hanson for further research work. All the flesh from the wings was removed and dried to protect the specimens from being damaged. Heads were pickled in formaldehyde, each having two feet of string tied through the nostrils with an identification tag on the dry and outside end marked with the date killed, sex, weight, locality where shot and numbered. While collecting the tail feathers, it was noticed that some of the tail feathers were missing, and when the old Indians were approached for their opinions on the matter, the reason they had was that when there is a cold north wind, the birds will sit long enough on the ice without moving, with their tail feathers touching and freezing in the ice, that they sometimes leave the feathers attached to the ice when movement or flight takes place.

Collection of Bird Bands

Twelve Canada goose bands and three mallard bands were collected from Nattabisha camp. Nine Canada goose bands were left on the collected tarsi sent to Maple for further research and also two Canada goose red neck bands and leg bands were collected from North Bluff shoals.

Blue and Snow Geese

There was quite an increase in kills as well as observations this spring, of blue and snow geese. The birds migrated one week earlier than last year and this enabled the Indians to fill the food bucket. Most of the birds were killed in Hannah Bay, which is a good feeding ground in the Crooked Creek area. Again, the Indians were not too happy over this spring's wavey kills as they claim a good spring hunt from Nattabisha camp would average four to six hundred birds.

Pictures were taken of the hunting camp, some showing meat being cured, tent area, ice-bridge crossing creek, picture of dead seal, decoys, shoreline, returning to Moosonee by sleigh and dogs, etcetera. Pictures will be sent to Maple and negatives are available if required.

The following chart indicates the date, number of hours spent in blinds per day, and kills per day for fourteen Indian Hunters, also the sex ratio and species of kills.

		CANADAS			WAVEYS			DUCKS		
Date	Hours	♂	♀	U	♂	♀	U	♂	♀	U
Apr. 14	12									
Apr. 15	22	2								
Apr. 16	64	3	6	1				4	1	
Apr. 17	72	4	7					9	6	
Apr. 18	88	5	6					7	4	
Apr. 19	96	15	18	1				6	5	
Apr. 20	68	7	8	1				8	4	
Apr. 21	34	3	5					11	7	
Apr. 22	24	1						8	5	
Apr. 23	44	6	8					9	4	
Apr. 24	52	2	3					13	7	
Apr. 25	58	4	3					8	5	
Apr. 26	66	7	7		1	1		5		
Apr. 27	98	24	19	10	2			7	6	
Apr. 28	32		1						2	
Apr. 29	62	4	3					8	5	
Apr. 30	72	4	11					12	8	
May 1	68	3	5					9	5	
May 2	42	2	1					17	8	
May 3	30				12	7		5	4	
May 4	36	1			21	17		6	2	
TOTAL	1140	97	111	13	36	25		152	88	

Nine families consisting of 22 adults and 18 children killed, consumed and preserved the following animals and waterfowl during my stay at Nattabisha Point from April 6 to May 7, 1963.

Waterfowl	No. of Kills	% of Waterfowl Kills
Canada geese	221	41
Blue and snows	73	14
Ducks	240	45

	Sex ♂	Sex ♀
Mallard	29	18
Black	13	7
Pintail	89	46
Baldpate	12	5
Green-winged teal	10	9
Merganser		1
Total waterfowl	153	86

534 100

None-Game Birds	
Marsh hawk	3
Duck hawk	1
Snowy owl	3
Great horned owl	2
Hawk owl	2
Killdeer	6
Yellowlegs	4
Total Non-Game Birds	21

Upland Game Birds	
Ptarmigan	35
Ruffed grouse	6
Sharptailed grouse	44
Spruce grouse	3
Total Upland Birds	88

Fur-bearing Animals	
Beaver	2
Rabbits	21
Total	23

Total man-hours for 14 hunters per Canada goose..... 5
Total man-hours for 14 hunters per blue & snow geese... 16
Total man-hours for 14 hunters per duck..... 4.7

The following is a list of bird bands which were collected at Nattabisha Point, during the spring of 1963, by the writer.

Date	Name of Hunter	Species	Band No.
Apr. 18	Stan Katebeltic	Canada	528-30121
Apr. 19	John Butterfly	Canada	518-16689
Apr. 19	Mark Butterfly	Canada	58087
Apr. 19	Arthur Allisappi	Canada	56578
Apr. 19	George Butterfly	Canada	54488
Apr. 19	George Butterfly	Canada	57779
Apr. 21	Oliver Small	Canada	55855
Apr. 21	Oliver Small	Mallard Duck	677-48980
Apr. 21	Ray Echum	Canada	508-09296
Apr. 27	Arthur Allisappi	Canada	508-68731
Apr. 27	George Butterfly	Canada	58026
Apr. 27	George Butterfly	Canada	58398
Apr. 27	George Butterfly	Mallard Duck	677-49810
Apr. 27	George Butterfly	Mallard Duck	717-48165
Apr. 27	Emile Sackaney	Canada	518-67794
Apr. 27	Emile Sackaney	Canada	518-44478
May 1	James Blacknet	Canada	518-16676

Other hunters who contributed Canada goose tail feathers, wings, heads, tarsi and feet were.

Alex Katebeltic
Thomas Archibald
Hubert Essau
Edward Butterfly
George Sutherland

All the above hunters are residents of Moose Factory and Moosonee, and in the past most of the above Indians emigrated from the east coast.

TAGGING AND TRANSFER OF MASKINONGE FROM MASKINONGE LAKE AND LITTLE VERMILION LAKE IN SIOUX LOOKOUT DISTRICT, 1963

by
A. E. Armstrong
District Biologist

Abstract

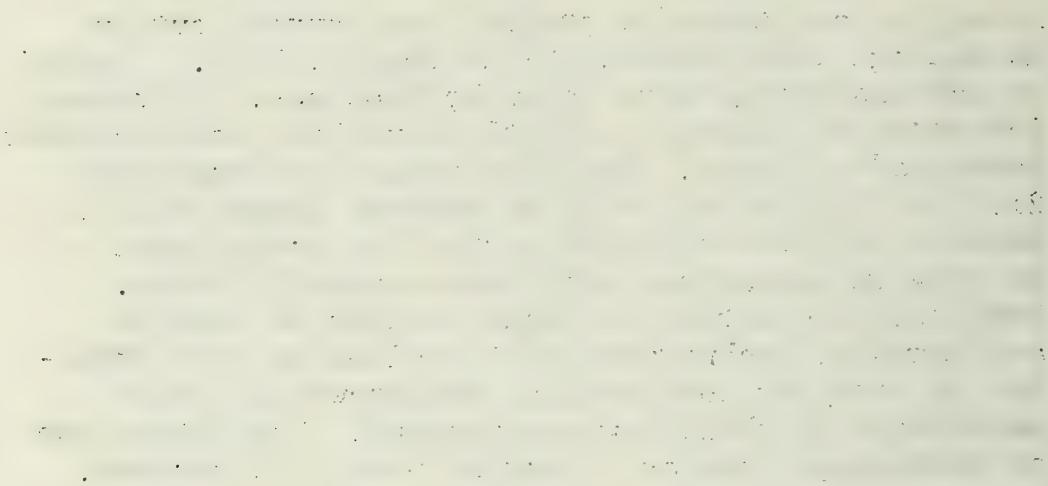
A tagging and transfer program was carried out on Maskinonge Lake from May 27 to June 8, 1963. A total of 140 maskinonge were taken by hoop net. Of these, 136 were transferred to Little Vermilion and Minnitaki Lakes and released. The fish ranged in length from 21.9 to 40.2 inches, with an average length of 29.3 inches. Age determinations show the growth rate to be slow in comparison with more southerly lakes. From this project it is hoped to improve capture and transfer techniques and to follow up this transfer by studying the survival and growth of these maskinonge in their new environment. The future use of Maskinonge Lake as a rearing pond is discussed.

Introduction

At the present time in Sioux Lookout District, we have one small maskinonge fish sanctuary. This sanctuary is comprized of Cloudlet, Hooch and Maskinonge Lakes and the waters of Maskinonge Creek flowing from Maskinonge Lake to Little Vermilion Lake.

Until age group V, this population appears to have an adequate growth rate. However, after age V the rate of growth is substantially decreased owing possibly to an inadequate food supply for larger fish. If food is the major limiting factor then such fish transferred to the Vermilions or Minnitaki Lake, where an abundant food supply is available, should increase appreciably in size. In addition to creating more angling in the Vermilions, the removal of a number of the larger maskinonge from Maskinonge Lake should provide more food for the remaining fish.

When these waters were closed to public fishing in 1946, almost the entire population of maskinonge inhabiting them were under the legal size limit. The lake was originally closed for a period of three years, however, at the end of this period the situation in the lake had not improved and a new closure extending for an indefinite period was put on the lake. This second closure is still in effect and will likely remain in force for some time to come.



In 1957 a tagging program was initiated on the lake to determine if possible whether maskinonge propagation was taking place from Maskinonge Lake to Little Vermilion.

Since the inception of tagging in 1957 approximately 200 fish have been tagged and released in Maskinonge Lake. To date none of these fish have been caught in Little Vermilion and this spring none of these tagged fish were recaptured by hoop net in Maskinonge Lake. Therefore, we have no proof that any of these fish moved to Little Vermilion, nor do we have proof that any of these tagged fish are still present in Maskinonge Lake.

It is possible that an insufficient number of maskinonge were tagged to determine this, or our tags were somehow defective and did not stay on the fish. Due to the fact that no tagged fish from the previous tagging projects were taken this spring in Maskinonge Lake, would lead us to draw one of three conclusions - (1) all these fish have disappeared due to natural mortality; (2) they have moved to Little Vermilion where none have been caught; (3) the tags were defective and have since fallen off the fish.

It seems unlikely however that they moved to Little Vermilion without having been detected by now, because at least six maskinonge from the seventy-two transferred to Little Vermilion this spring have already been taken by angling and we have received reports of a few others that were caught and released.

The purpose of the present operation was to expand the tagging programme in Maskinonge Lake by operating a hoop net in the outlet during the spring spawning run and subsequently to transfer some of these fish to the Vermilions and Minnitaki Lake.

With this operation, it was hoped we would gain experience in the capture and transfer of maskinonge and obtain valuable information to assist us in the wise management of this lake in future years.

The hoop netting, tagging and transfer was carried out by M. Semotok and A. Armstrong of Sioux Lookout District. The Department's beaver aircraft stationed at Sioux Lookout and piloted by G. Trussler transferred the fish to Minnitaki Lake. The transfers to Little Vermilion were made by boat.

Maskinonge Lake - Physical Characteristics

Maskinonge Lake is located southwest of the town of Sioux Lookout in the townships of Pickerel and Echo. It covers an area of 1209 acres, and its average depth is probably 15-20 feet.

The one inlet carrying the runoff from Cloudlet and Hooch Lakes is dotted with beaver houses and contains one good sized beaver dam and a number of lesser dams. The outlet from Maskinonge Lake is a meandering creek with a water distance of about three miles to its entrance into Little Vermilion. Both the inlet and outlet creeks have mainly soft muddy bottoms covered with vegetative debris and a rich supply of water lilies. The outlet creek contains four beaver dams which have created varied water levels throughout its course, and the lake proper has a number of shallow weedy bays and rocky shoals around which the fish feed extensively during the summer. At the start of the program the water temperature in the creek was 51°F and the maskinonge had already commenced spawning.

Hoop Netting

A three-foot and a four-foot hoop were fished in the outlet creek of Maskinonge Lake during the period May 27 to June 8. These nets were lifted using a fifteen foot aluminum boat. All maskinonge were either transferred immediately to Little Vermilion or placed in holding pens and transferred by plane to Minnitaki the following day. All suckers taken in the hoop nets were killed and disposed of.

Tagging

The 140 maskinonge taken by hoop nets were all tagged with plastic streamer tags sewn through the gill covers. At the time of tagging all fish were measured to the nearest tenth of an inch (total length) and the sex recorded when possible to determine.

Appendices A&B list the tag numbers, sex and total length of the tagged fish that were transferred.

Transfer to Little Vermilion

A total of 72 tagged maskinonge were transferred to Little Vermilion. These fish were released in Ament Bay, Northwest Bay, Back Bay and the Pasture. For transporting the fish a speckled trout planting tank was used. This type of tank was ideal for moving from ten to fifteen fish per trip depending on their size. Owing to the depth of water in the creek and because four beaver dams had to be navigated, it was not possible to use a second tank in the boat.

Transfer to Minnitaki Lake

A total of 64 tagged maskinonge were transferred from Maskinonge Lake to Minnitaki Lake. These fish were released in Red Pine Bay and Lyons Bay. Two tanks, with 16 maskinonge to a tank, were used, and it was necessary to make only two trips

(May 30, 31) with the Department's beaver aircraft to complete the transfer.

The only difficulty experienced with the air transfer of fish occurred in moving the fish from the holding pens into the aircraft. It was during the handling of fish at this time that four escaped back into Maskinonge Lake. If the transplanting program is continued some alterations in the method of transfer will be made. We contemplate constructing a transporting tank 40 x 30 x 20 (approximate dimensions). With this tank fastened in the aircraft and partially filled with water it would be possible to lift the holding pen filled with fish directly into this tank. By using this method, personal contact with the fish is limited. The operation is greatly speeded up and arrival in good condition is assured.

Biological Characteristics - Maskinonge Lake

Maskinonge (Esox masquinongy) is the dominant fish in this lake. Observations made on maskinonge creek each spring show that as many as 475 fish have been spotted during one trip upstream to Maskinonge Lake from Little Vermilion during the spawning run.

The length distribution of the 140 maskinonge is shown in Table I. These fish ranged in length from 21.9 to 40.2 with an average length of 29.3. Ninety-six of the maskinonge were over the legal minimum length of 28 inches.

No age-length relationship data are available from the present tagging and transfer project, however age data (Table II) are available from tagging carried out on the lake in 1957, 1958 and 1959.

The youngest fish tagged was age III and 22.0 inches in length, while the oldest fish were age XIV and averaged 40.0 inches in length. During the first five years of life the maskinonge in this lake grow at a constant rate to reach a length of 27 inches. After age V growth appears to be very sporadic.

In Fig. I the growth of Maskinonge Lake fish is compared to that of Maskinonge from Muskie Lake, Marl and Wigwam Lakes of the Kenora District as well as growth of maskinonge from larger lakes of the Western Region as determined by Hourston (1952).

The growth of this species from Maskinonge Lake is somewhat better than the growth from the Kenora maskinonge lakes, but is considerably less than that reported by Hourston for the Western Region.

From observations made of these fish at the time of release and from a number of weights collected from recaptured fish it would appear as though the fish from Maskinonge Lake while somewhat slow in attaining legal length are about average in gaining weight.

Sexual Maturity

One hundred and twenty-three of the maskinonge tagged this spring were proven to be sexually mature by the stripping method. The remaining 17 tagged during the last three days of the program were believed to be completely spent and sex was not determinable. The smallest male tagged was 21.9" and it was mature. The smallest female was 26.6" also sexually mature.

Summary

From May 27 to June 8, 1963 a total of 140 maskinonge were taken in two hoop nets set in Maskinonge Lake. Of these, 136 were transferred to Little Vermilion and Minnitaki Lakes and released.

Age determinations of maskinonge show the growth rate to be slow in comparison to more southerly lakes, with legal length not being attained by many before age VIII. Other species inhabiting this lake are smallmouth bass, common sucker, lake whitefish and yellow perch.

From past performances of this lake it would appear that its role in future years should be that of a rearing pond. Because of its size it can only supply a limited amount of legal sized fish for angling. Therefore, under pressure this supply would soon disappear as it did in the past. If, however, it were used as a rearing pond it has a potential supply of legal sized fish that could be transferred to other waters to provide additional angling for this highly prized game fish.

Acknowledgments

Thanks are due to the fish and wildlife staff and Mr. G. Trussler, Department pilot, who assisted in the operation.

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TABLE I

Length Distribution of Maskinonge Caught in Maskinonge Lake in May and June 1963

Length Class	Number of Fish
21.0 - 21.9	1
22.0 - 22.9	-
23.0 - 23.9	-
24.0 - 24.9	1
25.0 - 25.9	1
26.0 - 26.9	10
27.0 - 27.9	31
28.0 - 28.9	28
29.0 - 29.9	18
30.0 - 30.9	21
31.0 - 31.9	12
32.0 - 32.9	9
33.0 - 33.9	2
34.0 - 34.9	3
35.0 - 35.9	-
36.0 - 36.9	1
37.0 - 37.9	1
38.0 - 38.9	-
39.0 - 39.9	-
40.0 - 40.9	1
	140

TABLE II

Age-Length Relationship of Maskinonge from Maskinonge Lake

Age	Number of Fish	Average Total Length	Range
III	1	22.0	-
IV	3	24.1	23.0 - 25.0
V	6	27.2	26.0 - 29.0
VI	13	27.4	27.0 - 29.5
VII	5	27.7	26.5 - 28.5
VIII	10	29.1	28.5 - 30.0
IX	9	30.1	29.5 - 31.0
X	9	33.1	30.5 - 34.0
XI	5	34.5	32.0 - 36.0
XII	1	38.3	-
XIII	-		
XIV	2	40.0	39.5 - 40.5
	64		

APPENDIX A

Tagged Maskinonge Released in Little Vermilion Lake

Tag	Total Length	Sex	Tag	Total Length	Sex
150600	30.5	♀	150763	28.7	♂
601	28.7	♀	764	30.3	♀
602	27.6	♂	765	37.3	♀
603	31.8	♂	766	32.1	♀
604	27.7	♂	767	27.8	♂
605	30.7	♀	768	30.5	♀
150744	29.0	♀	769	26.5	♂
745	27.9	♂	770	28.8	♀
746	27.8	♀	771	28.3	♀
747	27.0	♂	772	28.0	♂
748	26.4	♂	773	27.6	♂
749	40.2	♀	774	32.9	-
750	27.5	♂	775	27.9	-
751	28.8	♀	776	27.5	♂
752	34.6	♀	777	26.3	♂
753	28.3	♂	778	27.9	♀
754	28.2	♀	779	31.1	♀
755	30.5	♀	780	32.3	-
756	31.8	♀	781	30.1	-
757	34.8	-	782	31.6	-
758	27.9	♂	783	30.7	-
759	27.4	♂	784	28.0	♂
760	26.1	♂	785	28.4	-
761	28.7	♂	786	29.5	-
762	27.1	♂	787	28.6	-
151684	26.6	♀	788	29.6	♂
685	30.5	♂	789	28.1	-
686	28.0	♀	790	26.1	-
687	30.1	♀	791	29.1	♂
688	30.4	♀	792	31.3	♀
689	29.6	♂	793	32.4	♀
690	30.6	♀	794	30.3	-
691	31.2	♀	795	36.3	-
692	28.0	♂	796	24.6	♂
693	33.0	-	797	27.2	♂
			798	26.0	♂
			799	27.2	♂

APPENDIX B

Tagged Maskinonge Released in Minnitaki Lake

Tag	Total Length	Sex	Tag	Total Length	Sex
150606	30.1	-	150715	28.3	♂
608	26.4	♂	716	27.1	♂
609	29.4	♂	717	30.4	-
610	27.4	♂	718	32.4	♀
611	29.6	♂	719	32.2	♀
612	28.0	♂	720	32.1	♀
613	27.0	♂	721	30.1	♀
614	25.6	♂	722	28.0	♂
615	31.7	♀	723	26.6	♂
616	28.9	♂	724	29.5	♂
617	27.5	♂	725	29.3	♂
150700	28.6	♂	726	28.9	♂
702	27.5	♂	727	27.2	♂
703	29.0	♂	728	27.4	♂
704	29.0	♂	729	31.7	♀
705	28.6	♀	730	31.9	♀
706	29.9	♀	731	29.4	♂
707	33.5	♀	732	28.7	♀
708	28.7	♀	733	31.5	♀
709	30.7	♀	734	31.7	♀
710	27.6	♀	735	30.5	♀
711	32.1	♀	736	28.7	♂
712	30.1	♂	737	30.3	♂
713	27.6	♂	738	30.7	♀
714	29.5	♂	739	27.0	♂
151672	29.2	♂	740	28.2	♂
673	27.6	♂	741	29.9	♂
674	34.4	♀	742	30.5	♀
675	29.8	♀	743	28.7	♀
676	27.9	♂			
677	27.7	♂			
679	32.7	♀			
680	28.9	♂			
681	29.1	♂			
682	27.2	♀			

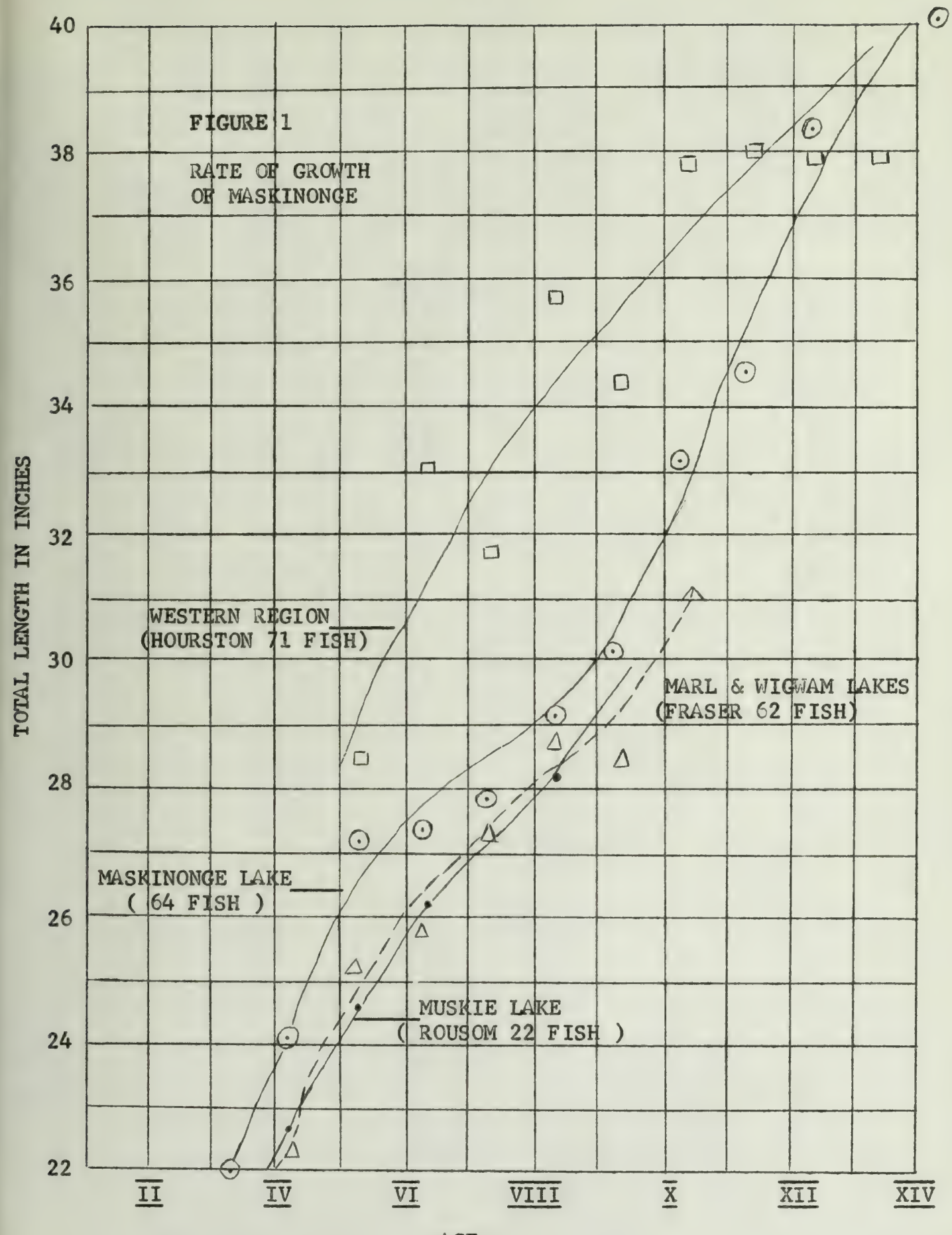
FIGURE 1
RATE OF GROWTH
OF MASKINONGE
40
38
36
34
32
30
28
26
24
22
TOTAL LENGTH IN INCHES
WESTERN REGION
(HOURSTON 71 FISH)
MARL & WIGWAM LAKES
(FRASER 62 FISH)
MASKINONGE LAKE
(64 FISH)
MUSKIE LAKE
(ROUSOM 22 FISH)
II
IV
VI
VIII
X
XII
XIV
AGE